Crabtree

Occupancy sensors & PIRs

Various locations where motion sensors can be used are general office, stairwell, corridors outdoor applications.

Master & slave flush ceiling motion sensors

Crabtree's range of occupancy sensors are designed to offer a quick and easy plug n play installation whilst offering savings to lighting energy consumption.

It is estimated that 70% of the UK's lighting consumption is used in commercial applications. Studies of several rooms in different commercial environments installed with occupancy sensors, show that on average, 41% of lighting costs could be saved. By using Crabtree's plug n play solution users can achieve these savings with a minimal investment, in time and money.

The versatility of the Crabtree plug n play installation makes the product ideal for coverage in all room shapes as well as a single detection zone having multiple sensor locations.

The master unit has power connected to a power supply module. Plug n play is then achieved by slave units connecting to each other via a supplied RJ11 cable in a daisy chain arrangement.

Further to the plug n play Master and Slave system the range is further complimented by a dedicated Ceiling and Corridor Sensor. The flush or surface mounted sensors have the largest known detection zone in the market, 24 metre diameter when fitted at optimal height.

The existing Crabtree Minder IP55 PIR range offers solutions for installations in arduous conditions.

6004

6004 open showing adjustment dials

CEILING MASTER MOTION SENSOR

	PACK QTY	
Ceiling Master Motion Sensor	1	**6004**

- Detection circular 360°
- 8 metre diameter detection zone at 2.4 metre height
- Switching capacity: 1800W Incandescent
  1100VA Fluorescent
  1100VA Energy Saving Lamp
- Time adjustment 30 sec to 30 min
- Photocell: Lux adjustment 5 to 1000 LUX
- Sensor adjustment 1 metre diameter to 8 metre diameter
- Power box supplied with master motion sensor
- 5 slave motion sensors can be connected in line with 1 master motion sensor
- Master motion sensor comes complete with 30cm RJ12 patch cord
- Plastic shroud supplied to help mask the lens if there are any undesired areas

Product standards

- EN 55015:2006 + A1:2007
- EN 61547:1995 + A1:2000
- EN 61000-3-2:2006
- EN 61000-3-3:1995 + A1:2001 + A2:2005
- EN 60669-2-1:2004 + C1:2007 clause 26
- EN 60669-2-1:2004 + C1:2007
- EN 60669-1:1999 + A1:2002 + A2:2008 exc clause 19.102
  101.1.1.2
  101.3

6005

6005 open showing adjustment dial

CEILING SLAVE MOTION SENSOR

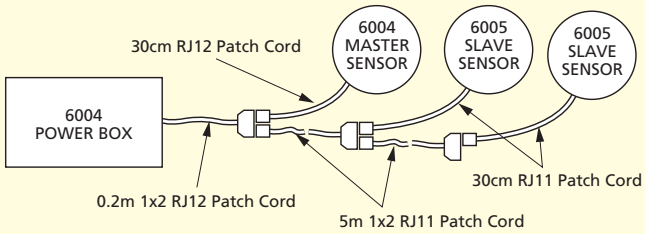
	PACK QTY	
Ceiling Slave Motion Sensor	1	**6005**

- No wiring required
- Detection circular 360°
- 8 metre diameter detection zone at 2.4 metre height
- Switching capacity: 1800W Incandescent
  1100VA Fluorescent
  1100VA Energy Saving Lamp
- Sensor adjustment 1 metre diameter to 8 metre diameter
- 5 slave motion sensors can be connected in line with 1 master motion sensor
- Slave sensor comes complete with 5 metre RJ11 patch cord
- Plastic shroud supplied to help mask the lens if there are any undesired areas

Product standards

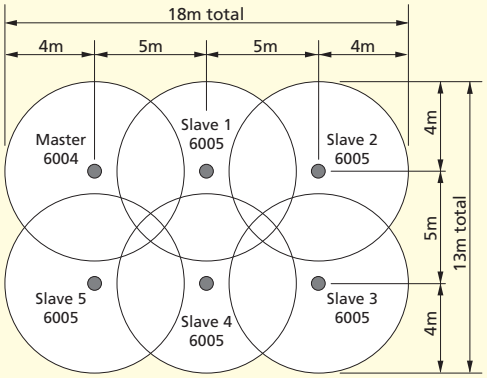
- EN 55015:2006 + A1:2007
- EN 61547:1995 + A1:2000
- EN 61000-3-2:2006
- EN 61000-3-3:1995 + A1:2001 + A2:2005
- EN 60669-2-1:2004 + C1:2007 clause 26
- EN 60669-2-1:2004 + C1:2007
- EN 60669-1:1999 + A1:2002 + A2:2008 exc clause 19.102
  101.1.1.2
  101.3

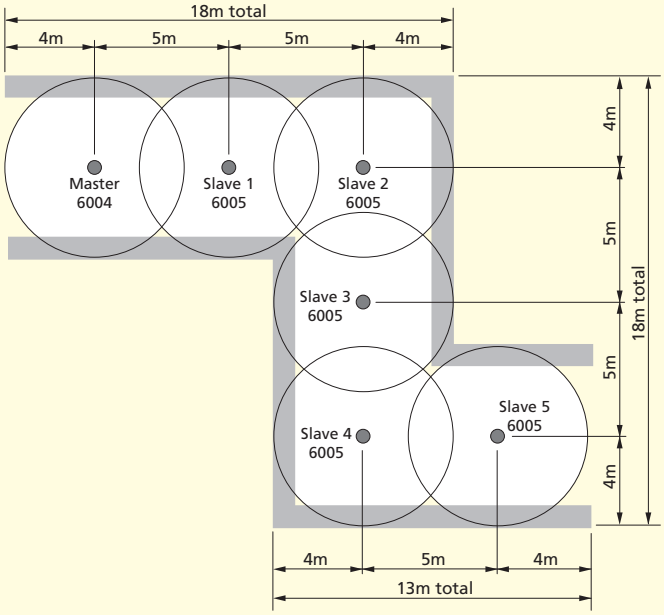
Each power box can have not only one MASTER sensor but also can extend flexibly up to 5 SLAVE sensors.



NOTE: Master x1 – Slave x5

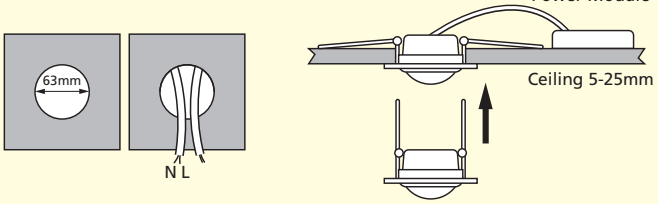
Typical maximum layout of master followed by 5 slaves





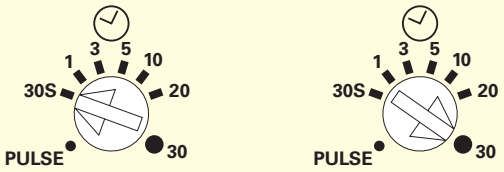
Determine the best location for the sensor. Install the sensor at least 1m away from fluorescent and HVAC ducts, and at least 1.3m away from incandescent fixtures and HVAC diffusers.

1. Determine the best location for the sensor.
2. Drill a 63mm diameter hole in the ceiling. The thickness of the ceiling must be between 5mm and 25mm.
3. Insert the power module into the ceiling first and then fix the sensor with metal spring as shown.



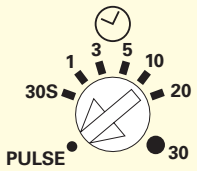
ADJUSTMENTS

The sensor has an adjustable "TIME ON" control from 30 seconds minimum to a maximum of 30 minutes. Light will remain on for the setting time interval after the last movement is detected. While there is movement from a heat source in the detecting area the lighting will remain on and the time will keep resetting.



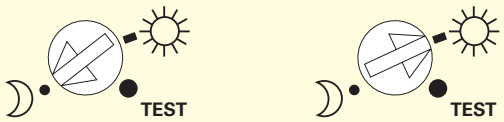
Master only

If time adjustment is set to PULSE, the sensor will enter short pulse mode. In short pulse mode, the sensor will send a signal to the device. The signal will be 1 sec ON and 9 sec OFF.



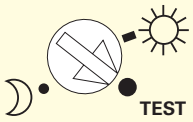
Master only

The LUX adjustment controls the light level at which the unit will switch on the light when movement is sensed. If set to the maximum position, it will switch during daylight. If set to the minimum position, it will operate only in total darkness. Ideally it should be set at dusk or in the light conditions under which the sensor and lights are expected to operate.



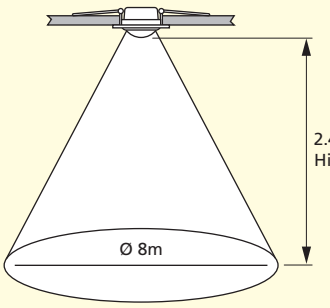
Master only

If LUX adjustment is set to maximum, the sensor will enter TEST mode. In TEST mode, the light will turn on for 3 sec when PIR is triggered. Check the detection area and adjust sensor to the desired angle. Afterwards, it can be switched back to desired time setting.



Master only

The sensor adjustment controls the detection range. If set to the maximum position, the detection range is about 4m radius. If set to the minimum position, the detection range is about 0.5m radius.



HEIGHT	RADIUS (M)
2.3	3.5
2.4	4
3.0	5.5

6001

Rear view of product 6001

CEILING MOTION SENSOR

	PACK QTY	
Ceiling Motion Sensor	1	**6001**

- 360° Detection range, flush mounting
- 24 metre diameter detection zone at 3 metre height
- Switching capacity: 1000W Incandescent
  500VA Fluorescent
  500VA Energy Saving Lamp
- Photocell: Lux adjustment 2 to 1000 LUX
- Time adjustment 10 sec to 20 min
- Sensor adjustment 4 metre diameter to 24 metre diameter

Product standards

- EN 60669-1:1999 + A1:2002 + A2:2008
- EN 60669-2:2004 + A1:2009
- EN 55015:2006 + A1:2007 + A2:2009
- EN 61000-3-2:2006
- EN 61000-3-3:2008
- EN 61547:1995 + A1:2000

6002

Rear view of product 6002

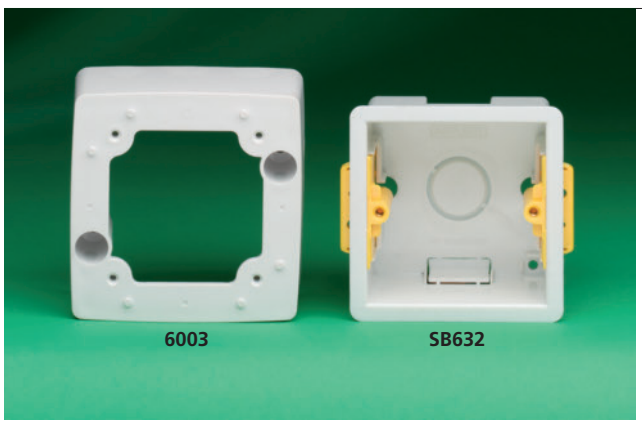
CORRIDOR MOTION SENSOR

	PACK QTY	
Corridor Motion Sensor	1	**6002**

- 360° Detection range, flush mounting
- 24 metre in length 6 metre width detection range at 3 metre height
- Switching capacity: 1000W Incandescent
  500VA Fluorescent
  500VA Energy Saving Lamp
- Photocell: Lux adjustment 2 to 1000 LUX
- Time adjustment 10 sec to 20 min
- Sensor adjustment 4 metre diameter to 24 metre diameter
- Detection range is achieved by aligning the double arrow ⟷ along corridor

Product standards

- EN 60669-1:1999 + A1:2002 + A2:2008
- EN 60669-2:2004 + A1:2009
- EN 55015:2006 + A1:2007 + A2:2009
- EN 61000-3-2:2006
- EN 61000-3-3:2008
- EN 61547:1995 + A1:2000



6003 SB632

FLUSH MOUNT BACK BOX

	PACK QTY	
1 Gang 47mm deep dry lining back box	10	**SB632**

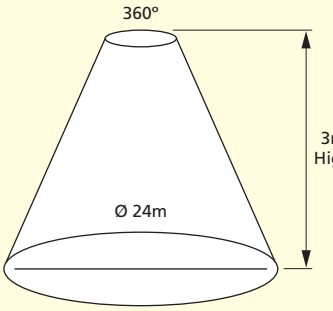
Tile Thickness	6.35 to 15mm
Dimensions	83mm x 83mm x 48mm
Cut out dimension	73mm x 73mm

SURFACE MOUNT BACK BOX

	PACK QTY	
1 Gang 39mm deep	1	**6003**

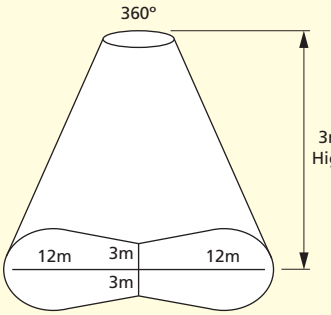
Dimensions	90mm x 90mm x 39mm

DETECTION RANGE



6001

HEIGHT	RADIUS (M)
2.3	10
2.5	11
3.0	12



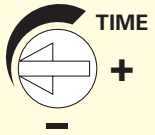
6002

HEIGHT	RADIUS (M)
2.5	11
3.0	12

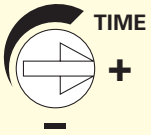
NOTE: 6002 detection range is achieved by aligning the double arrow ⟷ along corridor.

ADJUSTMENTS

The sensor has an adjustable "TIME ON" control from 10 seconds minimum to a maximum of 20 minutes (approx). Light will remain on for the setting time interval after the last movement is detected. While there is movement from a heat source in the detecting area the lighting will remain on and the time will keep resetting.



Minimum
10 seconds



Maximum
20 minutes

The LUX adjustment controls the light level at which the unit will switch on the light when movement is sensed. If set to the maximum position, it will switch during daylight. If set to the minimum position, it will operate only in total darkness. Ideally it should be set at dusk or in the light conditions under which the sensor and lights are expected to operate.

Minimum
dark operation

Maximum
daylight operation

The sensor adjustment controls the detection range. If set to the Maximum position "+", detection range is approximately 12m radius, if set to the Minimum position "–", detection range is approximately 2m radius.

Minimum
2m detected range

Maximum
12m detected range

MINDER 90°, 220° & 280° SENSORS

IP55	PACK QTY	
Passive infrared motion detector which switches consumers through a timing element when sources of heat move within its range.		
Minder 90 Deg PIR sensor, no remote control, surveillance range 12m frontal, 6m lateral	1	**6853**
Minder 220 Deg PIR sensor, c/w remote control, surveillance range 16m frontal & lateral	1	**6845**
Minder 280 Deg PIR sensor, c/w remote control, surveillance range 16m frontal & lateral	1	**6846**
Dimensions 102mm x 102mm x 182mm		

- Minder 90° and 220° can be swivelled vertically +90° -40°
- Sensor head can be swivelled horizontally +/- 65°
- Can be wall or ceiling mounted
- Minder 90° and 220° offer rear-field "anti-creep" protection
- Maximum Switching current 16AX

MINDER SECURITY 220° SENSOR

IP55	PACK QTY	
Minder Security 220 Deg PIR sensor, c/w remote control,surveillance range 16m frontal & lateral	1	**6849**
Dimensions 102mm x 102mm x 182mm		

- Minder 220° can be swivelled vertically +90° -40°
- Sensor head can be swivelled horizontally +/- 65°
- Can be wall or ceiling mounted
- Minder 220° offers rear-field "anti-creep" protection
- Maximum Switching current 16AX

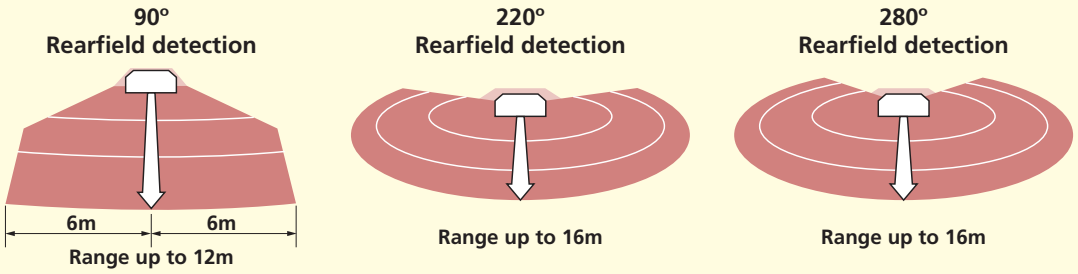
ANCILLIARY ITEMS

	PACK QTY	
Corner mounting bracket	1	**6887**
Manual remote control	1	**6841**
Service Manual remote control	1	**6842**

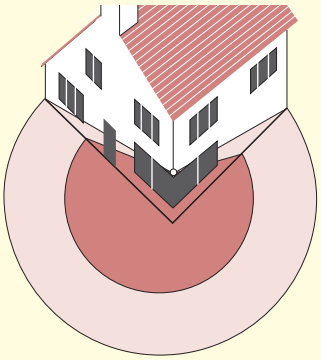
MINDER PASSIVE INFRA RED SENSORS

The Minder is a multi-adjustable, passive infrared movement detector. People and animals radiate heat, which is invisible to the human eye (infrared range). Consequently, the recorded infrared energy pattern changes when they enter the detection zone

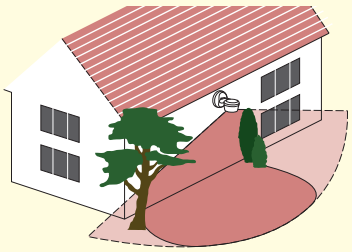
DETECTION RANGE DIAGRAMS



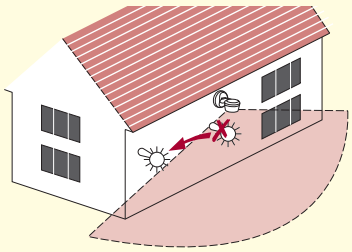
Minder 280



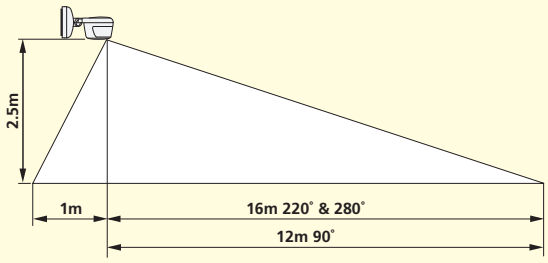
Insatallation sites



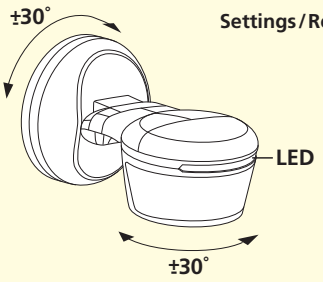
Be aware of trees and bushes

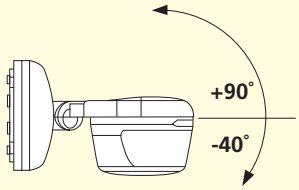


Do not install outside lights in detection zone



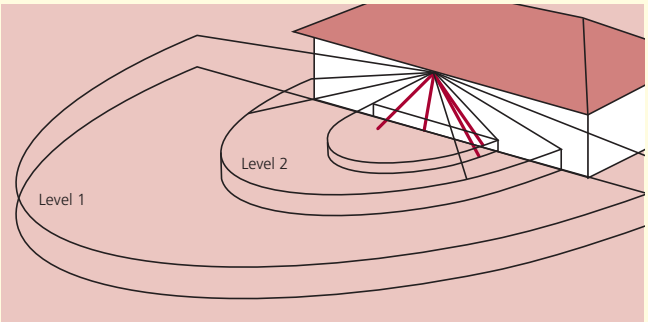
Settings / Restrictions of detection



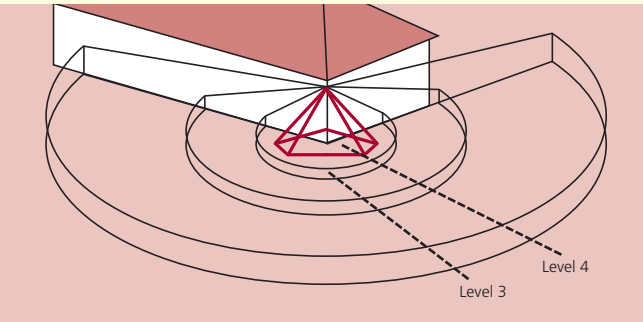


The various detection levels

To fully cover the surveillance zone, the Fresnel lens splits the zone into several overlapping levels.



Levels 1 and 2 cover remote surveillance and ensure seamless detection when the surveillance zone is entered from the outside.



Level 3 covers close range detection to prevent undetected entry of the surveillance zone close to the wall.

Level 4 covers the **rearfield detection**, which is activated when the front door is opened from the inside.

CEILING FLUSH-MOUNT MASTER & SLAVE OCCUPANCY SENSOR 6004 & 6005

SPECIFICATION:

1. POWER: 220V to 240V ~ 50Hz.
2. Detection range: refer to fig. 1.
3. Time adjustment: 30 sec, 1min, 3min, 5min, 10min, 20min, 30min (apply to Master sensor only)
4. Lux adjustment: 'Light level' sensing from 5 to 1000 Lux. (apply to Master Sensor only)
5. Sensitivity adjustment: 0.5m to 4m radius.
6. Switching capacity: 1800W incandescent light / 1100VA fluorescent light / 1100VA Energy saving lamp
7. Master sensor can be connected to up to 5 slave sensors.
8. Warm up: 60 sec.
9. Test mode: Lux adjustment switch to maximum. Light turns on for 3 sec in each trigger.
10. Short time pulse mode: Time adjustment switch to minimum. 1 sec ON, 9 sec OFF.
11. Operating temperature: -10ºC to +40ºC.
12. Storage temperature: -25ºC to +70ºC.
13. Terminal capacity: 2 x 1.5mm^2.

WIRING:

Warning: Products should be installed by a qualified electrician. Ensure that the sensor is fixed securely to the ceiling without any movement.

1. The phase (L) and neutral (N) conductors of the supply cable are connected according to terminal assignment.
2. The OUTPUT phase (L') and neutral (N) conductors are to be connected to the load terminals marked L' and N.

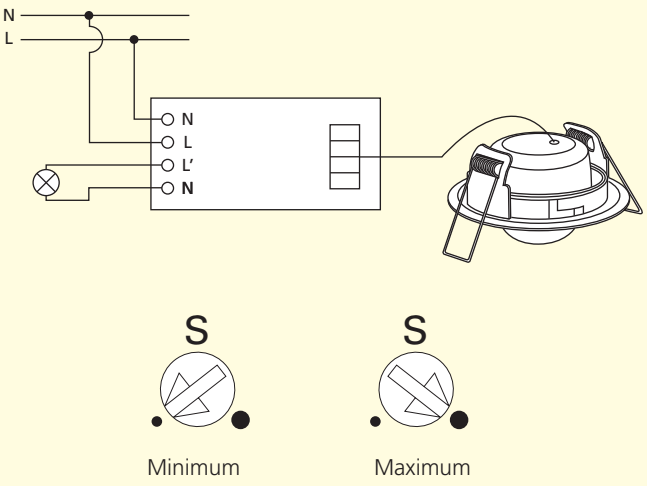
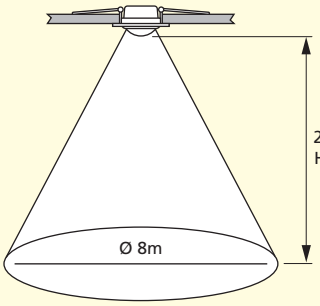


FIG. 1



HEIGHT	RADIUS (M)
2.3	3.5
2.4	4
3.0	5.5

6001/6002 CEILING & CORRIDOR MOUNT INDOOR MOTION SENSOR

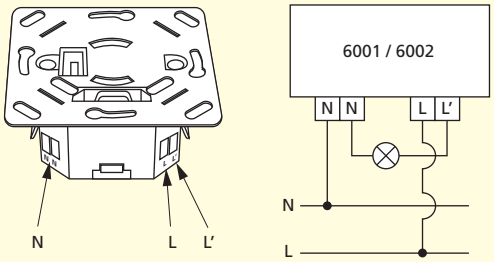
SPECIFICATION:

1. POWER: 220V to 240V ~ 50Hz.
2. Fuse: T6.3A, 250VAC.
3. Time adjustment from 10sec to 20min.
4. Lux adjustment: 'Light level' sensing from 2 Lux to 1000 Lux.
5. Range of detection from 2m to 12m radius. Detection range can be adjusted using the supplied shroud stickers
6. Switching capacity: 1000W incandescent light / 500VA fluorescent light / 500VA Energy saving lamp.
7. 6001/6002 detection range: please refer to the fig.2.
8. Auto mode / Test mode / Timer mode.
9. Operating temperature: -10ºC to +40ºC.
10. Storage temperature: -25ºC to +70ºC.
11. Terminal capacity: 2 x 1.5mm^2.

WIRING:

Warning: Products should be installed by a qualified electrician. Ensure that the sensor is screwed securely to the ceiling without any movement.

1. The phase (L) and neutral (N) conductors of the supply cable are connected according to terminal assignment.
2. The output (or load) phase (L') and neutral (N) connectors are to be connected to the load terminals marked L' and N.



INSTALLATION:

1. Fuse can be replaced by using a screwdriver to pull up the fuse.

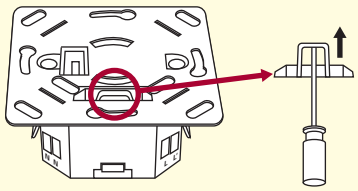
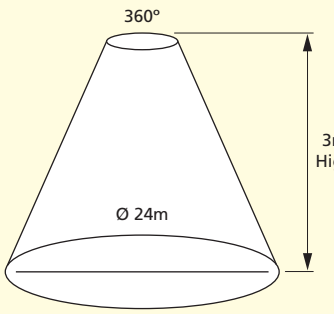
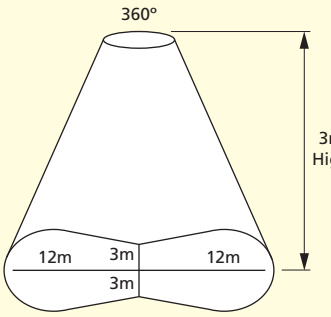


FIG. 2



6001

HEIGHT	RADIUS (M)
2.3	10
2.5	11
3.0	12



6002

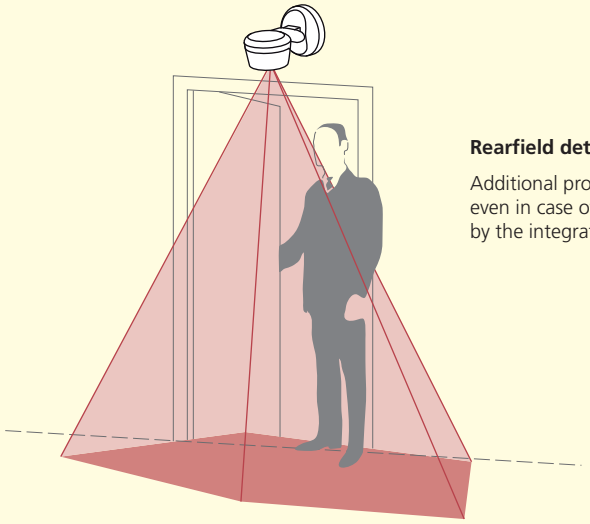
HEIGHT	RADIUS (M)
2.5	11
3.0	12

NOTE: 6002 detection range is achieved by aligning the double arrow ⟷ along corridor.

MINDER PASSIVE INFRA RED SENSORS

The Minder is a multi-adjustable, passive infrared movement detector. People and animals radiate heat, which is invisible to the human eye (infrared range). Consequently, the recorded infrared energy pattern changes when they enter the detection zone

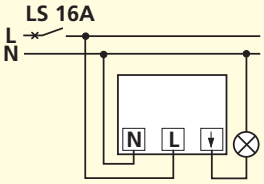
DETECTION RANGE DIAGRAMS



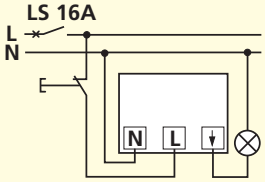
Rearfield detection

Additional protection for windows and doors up to the wall of the house, even in case of installation directly above doors and windows, is provided by the integrated rearfield detection.

Standard Connection



With Break Switch



TECHNICAL DATA

Horizontal range of detection	**90˚**	**220˚**	**280˚**
Max. frontal range	12m	16m	16m
Max. bilateral range	6m	16m	10m
Water protection	IP55	IP55	IP55
Switch off delay	1-3-5min	10 sec-30min	10 sec-30min
Dusk sensor, in Lux	3/15/Lux	0,5-300/Lux	0,5-300/Lux
Switching Capacity	3680 W/VA	3680 W/VA	3680 W/VA
Max switching Current	16AX	16AX	16AX
Operating Temperature	-25˚C - +55˚C	-25˚C - +55˚C	-25˚C - +55˚C

INSTALLATION

The Minder functions optimally when installed lateral to walking direction.
When selecting the installation site, ensure that:

- The minder is not covered by rigid or moveable objects (e.g. roofing elements, branches of tree, etc.).
- When unit is installed above, or lateral to luminaires, a minimum distance is always allowed between the unit and the luminaire, in order to prevent maloperation.
- when the unit is installed below luminaires, it is not heated up as a result of radiant heat from the luminaire.

When mounted at a height of 2.5m, the detection range is as above mentioned, though deviations in the mounting height cause changes in the detection range. In the case of special conditions at the site (e.g. rows of trees, small plot of land, proximity to road, etc.) the enclosed masking strip can be used to restrict the detection range by sticking it on the Minder lens.

MINDER FAULT FINDING ANALYSIS

NATURE OF FAULT	REASON FOR FAULT	REMEDY
Minder does not operate	Lens covered or dirty	Check power supply, uncover and/or clean lens
Inadvertent operation of Minder	Hot air or smoke e.g. out of kitchens activate Minder	Install Minder at a different location
Lamp is permanently on	Permanent movement in the monitored area	Make sure that no heat source is in the detection zone and wait until adjusted time lapse has run down.. For control purposes, please cover the lens completely.
	Minder is bridged to manual operation by additional switch	Switch to automatic operation

Electrium

ELECTRIUM SALES LIMITED A SIEMENS COMPANY
Commercial Centre, Lakeside Plaza, Walkmill Lane, Bridgtown, Cannock WS11 0XE.
eMail: info@electrium.co.uk Web: www.electrium.co.uk

UK SALES
Telephone: 01543 455010 Facsimile: 01543 455011 eMail: crabtree.sales@electrium.co.uk

TECHNICAL
Telephone: 01543 438310 Facsimile: 01543 438311 eMail: crabtree.technical@electrium.co.uk

EXPORT SALES
Telephone: +44 1543 455049 Facsimile: +44 1543 455048 eMail: export@electrium.co.uk

DUBAI OFFICE
Telephone: +971 4 3660053 Facsimile: +971 4 3660676

Although every effort has been made to ensure accuracy in the compilation of the technical detail within this publication, specifications and performance data are constantly changing. Latest details can be obtained from Crabtree.

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